

Remarks

The various parts of the Office Action (and other matters, if any) are discussed below under appropriate headings.

Claim Rejections - 35 USC § 101

Claims 1-18 have been rejected under 35 USC § 101 because the claimed invention is directed to non-statutory subject matter.

It is respectfully submitted that the rejection should be withdrawn because the Office Action applies an improper test for determining whether the claimed invention is directed to non-statutory subject matter.

The Examiner appears to be applying the guidelines set forth in MPEP 2106 *to a single element* in claim 1, i.e., the claim element of “determining a position . . .,” rather than to the “claimed invention” (i.e., the claim as a whole), as is instructed by MPEP 2106.¹

In the instant case, it is noted that the claimed invention relates to a method for detecting a target volume in radiotherapy or radiosurgery. As such, the “claimed invention” does not cover a judicial exception (as set forth in MPEP 2106) because the claimed invention is not directed simply to an abstract idea. MPEP 2106 instructs that abstract ideas typically relate to laws of nature or mathematical algorithms. The claimed method for detecting a target volume in radiotherapy or radiosurgery is not simply a law of nature or a mathematical algorithm. For at least this reason, the rejection should be withdrawn.

Further, the rejection appears to ignore other claimed elements that render claim 1 statutory. For example, claim 1 recites “inductively stimulating the at least one implant” and “detecting emission from the at least one inductively stimulated implant.” For at least this additional reason, the rejection should be withdrawn.

¹ “USPTO personnel must ascertain the scope of the claim to determine whether it covers either a 35 U.S.C. 101 judicial exception or a practical application of a 35 U.S.C. 101 judicial exception.” See, for example, MPEP 2106 IV(C)(1).

Claim Rejections - 35 USC § 112, 2nd ¶

Claims 2-20 stand rejected under 35 USC § 112, 2nd ¶ as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. In particular, claims 2, 16 and 19 recite “the patient.” Claims 2, 16 and 19 have been amended to remove the informality, thereby rendering moot the rejection.

In addition, claims 3 and 16 are rejected for a lack of antecedent basis related to the recitation of “measuring points.” It is respectfully submitted that this rejection should be withdrawn for the following reasons.

The Examiner asserts that the recitation of “measuring points” in claim 3 (page 9, line 1) is improper. The portion of claim 3 at issue recites “determining the position of the at least one implant relative to *measuring points* at which the second electromagnetic signal is detected, the position of *said measuring points* relative to the therapy device being known.” (Emphasis added).

The first instance of “measuring points” in claim 3 is ***not*** preceded by a definite article (e.g., “the”). Rather, the first instance of “measuring points” in claim 3 is not preceded by an article (as is proper for a plural subject or object).² Because claim 3 does not lack sufficient antecedent basis for the first instance of “measuring points,” the rejection of claim 3 should be withdrawn.

Like claim 3, the first instance of “measuring points” in claim 16 is not preceded by a definite article. Therefore, claim 16 does not lack sufficient antecedent basis for the first instance of “measuring points.” Accordingly, the rejection of claim 16 should be withdrawn.

Claim Rejections - 35 USC § 102 and § 103

Claim 1 recites a method for detecting a target volume in radiotherapy or radiosurgery that includes, *inter alia*, positionally referencing at least one implant in the

² Of course, a recitation of “a measuring points” or “an measuring points” would be grammatically improper.

vicinity of the target volume, inductively stimulating the at least one implant and detecting emission from the at least one inductively stimulated implant.

Cosman fails to disclose or fairly suggest the claimed method including positionally referencing at least one implant. Rather, Cosman is understood to disclose use of *external markers*, e.g., markers (20), (21), (23), (24), and an optical camera system, e.g., camera system (C), including cameras (17), (18) and (19).³

For at least this reason, the rejection of claim 1 and claims 2-18 dependent therefrom is not supported by Cosman and should be withdrawn.

In addition, Cosman fails to disclose or fairly suggest inductively stimulating at least one implant. As discussed above, Cosman is understood to disclose use of an optical camera system and external markers. Disclosure of an optical camera system and external markers is insufficient to anticipate or render obvious the method recited in claim 1, which includes "positionally referencing at least one implant" and "inductively stimulating the at least one implant."

While page 3 of the Office Action points to col. 11, lines 6-24 of Cosman for a teaching of inductively stimulating at least one implant and detecting emission from the at least one inductively stimulated implant, it is respectfully submitted that this reliance is misplaced. Col. 11, lines 6-24 of Cosman appear below.

Once the patient position translations described above (*based on external landmarks*) have been done, then the internal anatomy, which may be more closely represented by, for example, the bony structures within the body, can be further used to verniate and/or qualify the position of a desired internal target to isocenter. For this purpose, the treatment planning computer could provide simulated or reconstructed port film views or digital reconstructed radiograms (DRR's) to simulate such high energy X-ray or diagnostic X-ray images through the patient. These are compared by overlay analysis, image fusion, or other computer theoretic comparative methods to the actual port films or X-ray shots, as illustrated by block 84 of FIG. 4. Based on the comparative images from such reconstructed and actual X-ray views, further incrementation of the X,Y,Z movement of the couch can be made or planned. This is actuated as illustrated by step 85. Again it could be done automatically with a feedback system for fast image fusion comparison of simulated X-ray views. (Emphasis added).

³ See, for example, col. 2, lines 21-22, disclosing, "an *optical camera apparatus* functions in cooperation with a LINAC machine . . ." (Emphasis added).

It is not apparent how this portion of Cosman discloses or otherwise fairly suggests inductively stimulating at least one implant and detecting emission from the at least one inductively stimulated implant.

For at least this additional reason, the rejection of claim 1 and claims 2-18 dependent therefrom is not supported by Cosman and should be withdrawn

Claim 19 recites a method for recording diagnostic two-dimensional or three-dimensional image sets in accordance with breathing that includes, *inter alia*, introducing at least one implant into a patient in the vicinity of a target volume, inductively stimulating the at least one implant, and detecting emission from the at least one inductively stimulated implant.

Cosman is not understood to disclose or fairly suggest the claim 19 recitation of introducing at least one implant into a patient. Also, Cosman is not understood to disclose or fairly suggest inductively stimulating at least one implant. Further, Cosman is not understood to disclose or fairly suggest detecting emission from at least one inductively stimulated implant

As is discussed above with respect to claim 1, Cosman is believed to be concerned with external markers – rather than the claimed implant; and an optical camera system – rather than the claimed inductive stimulation of an implant and detecting of emission from the inductively stimulated implant.

For at least these reasons, the rejection of claim 19 and dependent claim 20 is not supported by Cosman and should be withdrawn.

Obviousness-Type Double Patenting

Claims 1- 12 and 16-20 stand rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-19 of commonly-owned U.S. Patent No. 6,731,970. In addition, under the double patenting heading, claims 13-15 were rejected as being unpatentable in view of Fabian.

The Examiner asserts that claims 1-12 and 16-20 “are not patentably distinct while not identical in dependency, contain no additional subject matter nor already in the claims of U.S. Patent No. 6,731,970.” In addition, the Examiner states, “[t]he

aforementioned patent teaches all the limitations of claim 2 as described above but does not teach wherein at least one implant includes one or more coils.”

MPEP 804 instructs that, “[a]ny obviousness-type double patenting rejection should make clear: (A) The differences between the inventions *defined by the conflicting claims* – a claim in the patent compared to a claim in the application. . .” (Emphasis added).

The foregoing obviousness-type double patenting rejections are not understood. The Examiner has not explained how the subject matter of the noted claims would be considered obvious to the skilled person in view of claims 1-19 of the '970 patent and/or Fabian. The only supportive discussion relates only to claim 2. Clarification is needed in order for applicants to provide an appropriate response to the obviousness-type double patenting rejections. The obviousness-type double patenting rejections, as presently stated, are improper and should be clarified, if not withdrawn.

Telephone Interview

In the interests of advancing this application to issue and compact prosecution, it is respectfully requested that the Examiner telephone the undersigned to discuss any of the foregoing with which there may be some controversy or confusion or to make any suggestions that the Examiner may have to place the application in condition for allowance.

Conclusion

In view of the foregoing, request is made for timely issuance of a notice of allowance.

Respectfully submitted,

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